



Managing Auto Repair & Body Shop Wastes

Technical Guidance

This technical guidance document (TGD) was prepared by the Pima County Department of Environmental Quality (PDEQ) to help automotive repair shops in Pima County comply with the hazardous waste law and regulations. The Federal Regulations referred to in this document have been incorporated by reference in [Pima County Code \(PCC\) Title 7, Chapter 7.09](#). Your company may generate other hazardous wastes beyond the examples mentioned within this document. It is your responsibility to determine whether your waste is hazardous. If you need assistance, please call PDEQ at 520-343-7400, the RCRQ/Superfund Hotline at 800-424-9346 or your national trade association or its local chapter. Thank you for doing your part to protect the environment.

Numerous automotive repair facilities routinely generate a variety of waste materials that may be considered hazardous waste. These waste materials include used motor oil, solvents, parts washer solutions, paints, antifreeze, used batteries, automotive fluids and a host of others. If these waste materials are not handled correctly, they can harm people and the environment when disposed of. Improper handling of hazardous waste is against the law and can result in fines and expensive cleanup work. Therefore, this TGD has been organized to assist the automotive repair industry in proper handling of hazardous wastes, as required by [40 CFR Part 260 et seq.](#)

What Is a Hazardous Waste?

A waste is any solid, liquid, or contained gaseous material that is no longer useful by your company and can be thrown away.

Your company may generate waste that can pollute the air, water and/or land if not handled and disposed of carefully. These wastes are considered hazardous, and they are currently regulated by Federal and State environmental laws.

There are two types of hazardous waste that companies can generate:

1. **Characteristic** Hazardous Waste
2. **Listed** Hazardous Waste

Characteristic Hazardous Wastes

A waste is classified as a characteristic hazardous waste if it has one of the following four characteristics:

1. **Ignitability:** It is easily ignited and has a flash point of less than 140°F. Examples of ignitable wastes are paint wastes (such as lacquer thinner), certain degreasers (such as mineral spirits), gasoline, and other solvents (such as acetone). Ignitable wastes have an EPA Hazardous Waste Number of **D001**.
2. **Corrosivity:** It dissolves metals and other materials, burns the skin, and has a pH of 2 or less or 12.5 or greater. Examples are waste rust removers, waste acid, alkaline cleaning fluids, and waste battery acid. Corrosive wastes have an EPA Hazardous Waste Number of **D002**.
3. **Reactivity:** It is unstable or undergoes a rapid and/or violent change with water or other materials. Examples are cyanide plating sludges and airbag inflator devices. Reactive wastes have an EPA Hazardous Waste Number of **D003**.
4. **Toxicity:** It is toxic as determined by laboratory testing (commonly known as Toxicity Characteristic Leaching Procedure [TCLP]). The EPA Hazardous Waste Numbers for these materials are **D004 - D043** (see Table 1).

These wastes contain dangerous amounts of metals, pesticides, herbicides, and organic chemicals that could be released to the groundwater. The list of toxic contaminants contains eight metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium and Silver), four pesticides, two herbicides, and twenty-five organic chemicals (such as Methyl Ethyl Ketone [MEK], Toluene and Xylene). A complete list of the toxicity contaminants and their waste numbers are located in Table 1.

Listed Hazardous Wastes

Your waste is automatically classified as a listed hazardous waste if it appears on any one of the four lists of hazardous wastes found in the hazardous waste regulations. These wastes have been listed because they practically always exhibit one of the hazardous waste characteristics described previously or contain any number of toxic chemicals that have been shown to be harmful to human health and the environment. The regulations list over 400 hazardous wastes, including wastes derived from manufacturing processes and chemicals which are thrown away. A list of these wastes which may be generated by your company can be found in Table 2.

- ✓ **Shop Tip:** It is a good practice never to mix different wastes together. Mixing wastes can create an unsafe work environment and may lead to complex and expensive cleanups and disposal.

Determining If Your Waste is “Hazardous”

You can determine if your company is generating a hazardous waste by one of the following three methods:

1. Assuming that it is hazardous by applying product knowledge that the waste produced is hazardous (this product knowledge may come from the Material Safety Data Sheet (MSDS); or
2. Determining if the waste is listed as a hazardous waste (Table 2) (this product knowledge may come from the label); or

3. Collecting and sending a sample of the waste to laboratory for a hazardous waste characteristics determination.

If you determine a waste is listed as a hazardous waste, you do not need to have it tested for the four characteristics.

Any waste that is determined to be **non-hazardous** and is not a liquid or has been absorbed can be disposed of at a solid waste disposal facility permitted by the State.

Categories of Hazardous Waste Generators

There are three categories of hazardous waste generators:

- Conditionally Exempt Small Quantity Generators (**CESQG**)
- Small Quantity Generators (**SQG**)
- Large Quantity Generators (**LQG**)

A **CESQG** is defined as any generator of hazardous waste that produces a *total of less than or equal to 220 pounds of hazardous waste in any month and stores no more than 2,200 pounds on site at any time.*

A **SQG** is defined as any generator of hazardous waste that *produces more than 220 and less than 2,200 pounds of hazardous waste in any month and stores no more than 13,200 pounds on site at any time.*

A **LQG** is defined as any generator of hazardous waste that *produces a total of 2,200 pounds or more of hazardous waste in any calendar month.*

- ✓ **Shop Tip:** One full 55-gallon drum can be estimated to = 459 pounds of hazardous waste. This representation assumes the waste is water based as many are and (weighs 8.34 pounds per gallon). Your waste could weigh more or less depending on its actual weight per gallon.

What You Must Do as a Hazardous Waste Generator

Once your company determines that it is generating hazardous wastes, you must:

- Determine your generator status (CESQG, SQG or LQG above); and
- If you determine your generator status to be small quantity or large quantity, call (520) 243-7400 or go to the PDEQ website at www.deq.pima.gov and obtain copies of the, the PDEQ and ADEQ Hazardous Waste Generator Handbooks for guidance. Once PDEQ receives the completed Application Form for Hazardous Waste Generators and Hazardous Waste Category Form your company will pay a fee and receive a permit to operate as a registered hazardous waste generator in Pima County. If you do not have an EPA Identification Number for your location, you will first need to obtain one from the state agency, Arizona Department of Environmental Quality (ADEQ). PDEQ staff can assist you with this process.
- If you determine your generator status to elevate to small quantity or large quantity during **any** calendar month, call (520) 243-7400 to notify PDEQ and ask to receive copies of the, the PDEQ and ADEQ Hazardous Waste Generator Handbooks. The PDEQ handbook will explain the permitting process and how your fees are calculated.

Note: If your shop generates a **total** of 220 pounds or less of hazardous waste in a calendar month (see CESQG definition on page 2), you may dispose of these waste materials with your regular trash provided the liquids are absorbed, they will not create hazardous conditions in the trash and the trash is disposed of at a permitted solid waste disposal facility.

Antifreeze

This waste is produced as a result of draining the radiator system. This used antifreeze may be hazardous for lead and benzene.

Do...

Recycle your antifreeze on site or through a recycling service.

If you recycle on site, filters and sludges produced from recycling may be hazardous. Therefore, you will need to determine if these wastes are hazardous.

If recycling is not an option, test the used antifreeze to determine if hazardous, and dispose of accordingly.

Store waste antifreeze in a separate, closed container labeled "WASTE ANTIFREEZE ONLY."

Don't...

Do not mix antifreeze with any other wastes (such as used oil or waste solvents).

Do not dispose of antifreeze in a storm drain, septic tank or dry well.

Do not pour antifreeze on the ground or in your parking lot.

Note: See *Radiator Shop Guidance* attachments.

Cleaning Solutions & Sludges

These materials are generated from spray cabinets, parts washers and cleaning of carburetors. These used cleaning solutions typically contain one or more of the following: petroleum distillates, mineral spirits, benzene, toluene, naphtha and toxic metals. In addition to used solvents, a sludge may also be generated. These materials, when no longer usable, are disposed of as hazardous waste.

Do...

Consider using a less hazardous solvent cleaner such as a citrus-based cleaner.

Carefully review Material Safety Data Sheets (MSDS) to avoid hazardous materials whenever possible.

Keep cleaning container closed when not in use to avoid evaporation, spills, fires and explosive hazards.

When your cleaning solution is no longer usable, contact a company to recycle it or properly dispose of it at a permitted hazardous waste disposal facility.

Store all sludges from tanks in a closed and properly labeled (such as “WASTE SLUDGE”) container.

Remove excessive oil, dirt and grease from parts with a wire brush and/or rag before placing in a parts washer. This will extend the life of your solvent.

Consider using parts washers with a filtration system to extend the life of the solvent.

Try to consolidate multiple washers into one central wash area to reduce the number of parts washers at your company.

Extend the time between solvent servicing, if at all possible.

Don't...

Do not dispose of used cleaning solution in the storm drain, septic tank or dry well.

Do not pour used cleaning solution on the ground. Do not put sludge from your tank on the ground.

- ✓ **Shop Tip:** Satellite accumulation is the temporary storage of hazardous waste at or near the location where the hazardous waste is generated. For example, if you are cleaning a spray gun on a work bench with a cleaning solvent, you need to have a container next to the work bench to pour the used solvent in. You can store up to a maximum of 55 gallons of used solvent in this area. You can have as many satellite accumulation areas as you need. They must be at or near points where hazardous waste is generated. Refer to Table 3 for other regulations regarding satellite accumulation.

Floor Cleaning Materials

This waste is generated from incidental spillage in the shop and/or breakage of hoses and seals. This floor cleaning material may be considered hazardous depending on what substance was absorbed. A hazardous waste determination (see page 2) must be performed in order to determine the proper disposal method for this material.

Do...

Keep your work area clean to reduce spills and leaks.

Provide drip pans to workers so fluids do not leak on the ground or concrete.

Seal off floor drains to ensure a spill or leak does not reach the storm drain, sanitary sewer, septic tank or dry well.

Place used absorbent material (such as kitty litter, spill dry, sand, etc.) in a closed container and perform a hazardous waste determination (see page 2) in order to determine proper disposal.

Immediately contain and clean-up a spill or leak.

Don't...

Do not use any more absorbent than necessary to absorb a spill.

Fluorescent Lamps

Fluorescent lamps are generated periodically by replacing burned out lamps in lighting fixtures. These waste lamps may be considered a hazardous waste if the lamps contain mercury. If the used, discarded lamps meet this criterion, then the lamps must be handled properly.

Do...

Accumulate unbroken bulbs for delivery to a legitimate bulb recycler.

Store unbroken bulbs in containers labeled “waste mercury-containing lamps,” or “used mercury containing lamps” with the date you begin storing lamps. Write the date on the outside of the container.

Store used lamps for no more than 1 year.

Inform employees of proper handling and emergency procedures regarding used lamps.

Contain releases of all waste mercury containing lamps immediately. Make a hazardous waste determination on the broken/damaged lamps and manage them properly.

Consider using fluorescent lamps containing less mercury.

Use a Bill of Lading (shipping papers used by truckers) or a non-hazardous manifest to document the amount of used lamps shipped off-site for recycling.

Note: See TGD HW8 for more detailed information on mercury containing lamps.

Don't...

Do not break lamps.

Lead Acid Batteries

Lead acid batteries are hazardous waste when thrown away because they contain sulfuric acid and lead. The sulfuric acid is considered hazardous because of its corrosivity (EPA Hazardous Waste Number D002). The lead is considered hazardous due to its toxicity (EPA Hazardous Waste Number D008).

- ✓ **Shop Tip:** You do not have to count lead acid batteries in determining your hazardous waste generator status if the batteries are being properly managed prior to recycling.

Do...

Recycle batteries by delivering them to suppliers from whom you purchase batteries or a collection

center that sends batteries to a legitimate battery recycler.

Recycle used, undamaged batteries as soon as possible; you can store them for no longer than one year.

Store batteries in a safe, covered area. In addition, the container in which the batteries are stored must be labeled “Universal Waste Batteries,” or “Waste Batteries,” or “Used Batteries.”

Don't...

Do not place lead acid batteries in the trash. You should recycle them.

Do not take lead acid batteries to a solid waste disposal facility.

Do not pour battery acid onto the ground or into a drain. This acid is considered hazardous waste.

Do not stack batteries improperly. Use cardboard on the storage pallet and between each layer. Wrap each layer with stretch wrap or they may fall and crack. See *Used Battery Stacking & Wrapping* attachment for more detailed guidance.

Paint, Paint Solvents and Paint Filters

These wastes are generated from repair and painting of damaged automobiles. These wastes may consist of used paints, clean-up solvents and out-of-date paints. Most automotive paints are considered hazardous waste because of ignitability (EPA Hazardous Waste Number D001). Some paints may be hazardous because they contain toxic metals. The used solvents used in clean-up are usually hazardous waste for ignitability and for being a listed hazardous waste (see Table 2).

Do...

Only mix enough paint for the area to be painted. Pour unusable paints and solvents into a closed container labeled “Waste Paint.” Reuse cleaning solvents until too dirty for cleaning. Clean paint gun in a paint gun cleaning unit, if possible.

Rotate paint stock, using the oldest first.

Clean up any spilled paint and/or solvents immediately with an absorbent.

Perform a hazardous waste determination (see page 2) on paint overspray paper and paint filters and dispose of them accordingly.

Don't...

When cleaning out your paint gun, do not spray washout solvent onto the paint filters. Spray it into a container and pour the sprayed material into your drum labeled "Waste Paint."

Do not pour paints and/or solvents onto the ground, in the storm drain, dry well or septic tank.

Pressurized Spray Cans

This waste material is generated from the use of brake, carburetor cleaner and paint which are often packaged in pressurized spray cans.

Do...

Carefully review Material Safety Data Sheets (MSDS) and avoid use of and contact with hazardous materials whenever possible.

Use the entire contents of the can. Empty cans are considered non-hazardous, while partially used cans may be hazardous waste.

Replace pressurized spray cans with portable wash units when possible.

Use mechanical spray cans/bottles when possible. Return defective cans to the manufacturer or dispose of as hazardous waste when applicable.

Don't...

Do not empty spray cans by releasing their contents to the environment.

Note: See TGD HW4 for more detailed information.

Shop Rags/Towels

Shop rags are typically used for cleaning/wiping parts and spills that may contain oils or hazardous materials. Depending on how the dirty rags are handled will determine if they are considered hazardous waste or not.

Do...

Use rags/towels that can be laundered.

Use a laundering service capable of handling rags contaminated with hazardous materials.

Use non-hazardous solvents whenever possible. Store soiled/dirty rags in a closed container and PDEQ recommends it be labeled "Used Shop Rags Only."

Spray a minimum amount of solvent onto rags instead of soaking them.

Remove or ring out excess solvent from rags before putting them in a container.

Don't...

Do not dispose of solvents by pouring them into containers used to store "Shop Rags."

Note: See TGD HW5 for more detailed information.

Used Oil Filters

Used oil filters, which include transmission filters, are exempt from the hazardous waste requirements provided that they have not been mixed with any listed hazardous wastes and are gravity drained while hot to remove liquids.

Do...

Before disposal, used oil filters must be hot gravity drained and have the filter dome punctured; or hot drained and crushed; or any other method which will remove the used oil.

<p>Drain all free flowing fluids from used oil filters. Place the drained liquid in a closed container labeled “Used Oil.”</p> <p>Place used oil filters in a closed container labeled “Used Oil Filters.”</p> <p>If possible, locate an oil filter recycler that will recycle your used oil filters. If not, dispose of drained filters in the trash.</p> <p><u>Don’t...</u></p> <p>Do not mix used oil filters with other hazardous waste materials.</p> <p>Do not place used oil filters in the trash without draining them.</p> <p>Used Oil</p> <p>This waste material is generated from changing oils and transmission fluid. Both of these fluids are crude oil based petroleum products and can be combined together. In addition, hydraulic fluid, gear lube oils and differential fluid may also be combined with this waste material.</p> <p><u>Do...</u></p> <p>Accumulate used oil/fluids for recycling. Change oil/fluids only when necessary. Collect oil/fluids in a closed container labeled “Used Oil.”</p>	<p>Have your used oil/fluids transported by a transporter with an EPA ID Number and obtain a receipt or Bill of Lading showing the amount of oil shipped off-site.</p> <p>Test used oil/fluids to ensure the waste material is non-hazardous, if recycling is not available.</p> <p><u>Don’t...</u></p> <p>Do not pour used oil/fluids on the ground.</p> <p>Do not mix carburetor cleaner, paint solvent or any other used solvents with the used oil/fluids.</p> <p>Do not pour used oil/fluids in a storm drain, septic tank, or dry well.</p> <p>Note: See TGD HW9, 10 & 11 for more detailed information of the management of used oil.</p> <p>✓ Shop Tip: Check with your used oil recycler to see if small amounts of contaminated gasoline/diesel fuel that cannot be reused can be picked up with your used oil.</p>
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Attachments: ADEQ Fact Sheet “Tips For Managing Hazardous Waste in Radiator Shops”
ADEQ “Radiator Shop Wastes – Practical Do’s and Don’ts Manual”
Stacking and Wrapping Used Batteries on Pallets Guidance Document

For additional information regarding proper management of solid or hazardous waste in Pima County, you may contact the Pima County Department of Environmental Quality (PDEQ) at (520) 724-7400, or the address at the beginning of this document, or visit the PDEQ website at <http://www.deq.pima.gov/waste/index.html> for access to the PDEQ Hazardous Waste Generators Handbook and waste or generator specific, technical guidance documents.

Table 1: Toxicity Characteristic Hazardous Wastes			
Contaminant	EPA Hazardous Waste Number	Contaminant	EPA Hazardous Waste Number
Arsenic	D004	Hexachlorobenzene	D032
Barium	D005	Hexachlorobutadiene	D033
Benzene	D018	Hexachloroethane	D034
Cadmium	D006	Lead	D008
Carbon Tetrachloride	D019	Lindane	D013
Chlordane	D020	Mercury	D009
Chlorobenzene	D021	Methoxychlor	D014
Chloroform	D022	Methyl ethyl ketone	D035
Chromium	D007	Nitrobenzene	D036
o-Cresol	D023	Pentachlorophenol	D037
m-Cresol	D024	Pyridine	D038
p-Cresol	D025	Selenium	D010
Cresol	D026	Silver	D011
2,4-D	D016	Tetrachloroethylene	D039
1,4-Dichlorobenzene	D027	Toxaphene	D015
1,2-Dichloroethane	D028	Trichloroethylene	D040
1,1-Dichloroethylene	D029	2,4,5-Trichlorophenol	D041
2,4-Dinitrotoluene	D030	2,4,6-Trichlorophenol	D042
Endrin	D012	2,4,5-TP (Silvex)	D017
Heptachlor	D031	Vinyl chloride	D043

Table 2: Listed Hazardous Wastes

Used solvents, solvent distillation residues (also known as still bottoms), or mixtures containing solvents are often hazardous waste. This includes solvents used in degreasing/parts washers, used paint thinners and distillation residues from reclamation. The following Table cites common listed hazardous wastes generated by the Automotive Industry.

EPA Hazardous Waste Number	Hazardous Waste
F001	The following used solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons; all used solvent mixture/blends used in degreasing containing before use, a total of ten percent or more (by volume) of one or more of the solvents listed above or those listed in F002 and F005; and still bottoms from the recovery of these used solvents and used solvent mixtures.
F002	The following used solvents: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoro-methane, and 1,1,2-trichloroethane; all used solvent mixture/blends containing before use, a total of ten percent or more (by volume) of one or more of the solvents listed above or those listed in F001 and F005; and still bottoms from the recovery of these used solvents and used solvent mixtures.
F003	The following used solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all used solvent mixture/blends containing, before use, only the above used solvents; and all used solvent mixtures/blends containing, before use, one or more of the above solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002 and F005; and still bottoms from the recovery of these used solvents and used solvent mixtures.
F005	The following used solvents: Toluene, methyl ethyl ketone, carbon disulfide, Isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all used solvent mixture/blends containing before use, a total of ten percent or more (by volume) of one or more of the above solvents or those listed in F001 and F002; and still bottoms from the recovery of these used solvents and used solvent mixtures.

Table 3: Hazardous Waste Generator Requirements

The following is a summary of the Rules for generators of hazardous wastes. If you have additional questions call 520-243-7400

	CESQG	SQG	LQG
Identify the hazardous wastes present	X	X	X
Obtain an EPA Identification Number		X	X
Package wastes in DOT-approved containers		X	X
Label drums with words identifying what the waste is or with a hazardous waste label during satellite accumulation (see Shop Tip on page 4)		X	X
Keep satellite accumulation drums closed and secure unless you are adding or removing hazardous waste		X	X
Once the satellite accumulation drum is full, place a hazardous waste label on it, fill in the date and move it to the hazardous waste storage area within three days (ensure that the label is completely filled out at this time)		X	X
Store the wastes on-site for no longer than 90 days			X
Store the wastes on-site for no longer than 180 days (270 days if transporting to a disposal facility 200 or more miles away)		X	
Never accumulate more than 13,200 pounds of hazardous waste on the property		X	
Never accumulate more than 2,200 pounds of hazardous waste on the property	X		
Inspect container storage area weekly and/or inspect tanks daily and keep a log		X	X
Manifest all hazardous wastes using the Uniform Hazardous Waste Manifest		X	X
Attach a Land Disposal Restriction (LDR) notification form to each hazardous waste manifest to notify the permitted Treatment, Storage and Disposal Facility (TSDF) of LDR requirements for the waste		X	X
Post the following information next to the telephone in the hazardous waste storage area: Name and Telephone number of the emergency coordinator, location of fire extinguishers, spill control materials, fire alarm location (if present) and Fire Department phone #		X	
Designate an emergency coordinator and devise a Contingency Plan and Personnel Training Program			requires written plan
Retain copies of all signed manifests for at least three years from the date of transport		X	X
Retain copies of any test results, waste analyses, or other determinations for at least three years from the date of transport		X	X
Retain copies of LDR determinations, notifications, and waste analyses for at least five years from the date of transport		X	X
Submit a report every two years summarizing the types and quantities of hazardous wastes used, methods of disposal, and efforts made towards waste minimization and the results of those efforts			X
Dispose of all hazardous wastes at a permitted TSDF		X	X
Send the wastes to a permitted TSDF or a Solid Waste Disposal Facility approved by the state for industrial or municipal wastes	X		
Pay Hazardous Waste Generator Fees		X	X